

What is claimed is:

1. An image pick-up device comprising:

an image pick-up unit for capturing an optical image obtained from incident light entering to the internal cavity of a frame which has the inner surface and the outer surface, and outputting an image signal of the optical image;

wiring extending from the image pick-up unit in an opposite direction to the direction in which the incident light enters, which is capable of transmitting the image signal; and

a substrate which is disposed in the internal cavity, has engaging portions for engaging with the wiring, one surface of which is substantially orthogonal to the axial direction of the frame, and which is formed of a member having a light-transmitting property.

2. The image pick-up device according to claim 1, wherein the engaging portions are holes into which the wiring can be inserted.

3. The image pick-up device according to claim 1, wherein the substrate is disposed in a predetermined position within the internal cavity of the frame so as to hermetically seal one of the openings of the frame, and wiring patterns are

provided on the surface of the substrate on the opening side for electrically connecting the engaging portions to the wiring.

4. The image pick-up device according to claim 3, wherein the substrate is joined hermetically to the inner surface of the frame by soldering.

5. An image pick-up device comprising:

image pick-up means for capturing an optical image obtained from incident light entering to the internal cavity of a frame, and outputting an image signal of the optical image;

wiring means extending from the image pick-up means in an opposite direction to the direction in which the incident light enters, which are capable of transmitting the image signal; and

a substrate which is disposed in the internal cavity, has engaging portions for engaging with the wiring means, one surface of which is substantially orthogonal to the axial direction of the frame, and which is formed of a member having a light-transmitting property.

6. An endoscope having an insertion portion which can be inserted into a body to be examined, comprising:

an image pick-up unit for capturing an optical image obtained from incident light entering to the internal cavity of a frame provided on a front end portion of the insertion portion, and outputting an image signal of the optical image;

wiring extending from the image pick-up unit in an opposite direction to the direction in which the incident light enters, which is capable of transmitting the image signal; and

a substrate which is disposed in the internal cavity, has engaging portions for engaging with the wiring, one surface of which is substantially orthogonal to the axial direction of the frame, and which is formed of a member having a light-transmitting property.

7. The endoscope according to claim 6, wherein the engaging portions are holes into which the wiring can be inserted.

8. The endoscope according to claim 6, wherein the substrate is disposed in a predetermined position within the internal cavity of the frame so as to hermetically seal one of the openings of the frame, and wiring patterns are provided on the surface of the substrate on the opening side for electrically connecting the engaging portions to the wiring.

9. The endoscope according to claim 6, wherein the substrate is joined hermetically to the inner surface of the frame by soldering.

10. An endoscope having an insertion portion which can be inserted into a body to be examined, comprising:

image pick-up means for capturing an optical image obtained from incident light entering to an internal cavity of a frame provided on a front end portion of the insertion portion, and outputting an image signal of the optical image;

wiring means extending from the image pick-up means in an opposite direction to the direction in which the incident light enters, which are capable of transmitting the image signal; and

a substrate which is disposed in the internal cavity, has engaging portions for engaging with the wiring means, one surface of which is substantially orthogonal to the axial direction of the frame, and which is formed of a member having a light-transmitting property.

11. An assembly method for an image pick-up device comprising an image pick-up unit for capturing an optical image obtained from incident light and outputting an image signal of

the optical image, comprising the steps of:

disposing a substrate formed of a transparent member on the rear end of internal cavity substrate frame such that one surface thereof is substantially orthogonal to the axial direction of the substrate frame, and hermetically joining the inner peripheral surface of the substrate frame and the outer peripheral surface of the substrate;

engaging wiring of a solid-state image pick-up device provided in the image pick-up unit, which extends in an opposite direction to the direction in which the incident light enters, with engaging portions provided in the substrate while performing position alignment visually;

joining the engaging portions and wiring hermetically;

joining the inner surface of the substrate frame and the outer surface of a lens holder of the image pick-up unit hermetically;

engaging cable signal lines inserted into the cable holder with other engaging portions in the substrate from an opposite direction to the direction in which the engaging portions are engaged with the substrate; and

joining the other engaging portions and the cable signal lines hermetically.

12. The assembly method for an image pick-up device according to claim 11, wherein the engaging portions and other engaging portions are holes into which the wiring and the cable signal lines can be respectively inserted.

13. The assembly method for an image pick-up device according to claim 11, wherein the substrate comprises wiring patterns for electrically connecting the engaging portions and other engaging portions on the surface of the substrate on the side at which the cable signal lines are engaged with the substrate.

14. The assembly method for an image pick-up device according to claim 11, wherein the substrate is hermetically joined to the inner surface of the frame by brazing.

15. The assembly method for an image pick-up device according to claim 11, wherein wiring is hermetically joined to the engaging portions and the cable signal lines are hermetically joined to the other engaging portions by brazing.

16. An assembly method for an image pick-up device

comprising an image pick-up unit for capturing an optical image obtained from incident light and outputting an image signal of the optical image, comprising the steps of:

engaging cable signal lines inserted into a cable holder with engaging portions provided on a substrate formed of a transparent member;

joining the engaging portions and cable signal lines hermetically;

disposing the substrate on the rear end of a substrate frame such that one surface thereof is substantially orthogonal to the axial direction of the substrate frame, and hermetically joining the inner surface of the substrate frame and the outer surface of the substrate;

engaging wiring of a solid-state image pick-up device provided in the image pick-up unit, which extends in an opposite direction to the direction in which the incident light enters, with other engaging portions provided in the substrate while performing position alignment visually;

joining the other engaging portions and wiring hermetically; and

joining the inner peripheral surface of the substrate frame and the outer surface of a lens holder of the image pick-up unit hermetically.

17. The assembly method for an image pick-up device according to claim 16, wherein the engaging portions and other engaging portions are holes into which the wiring and the cable signal lines can be respectively inserted.

18. The assembly method for an image pick-up device according to claim 16, wherein the substrate comprises wiring patterns for electrically connecting the engaging portions and other engaging portions on the surface of the substrate on the side at which the cable signal lines are engaged with the substrate.

19. The assembly method for an image pick-up device according to claim 16, wherein the substrate is hermetically joined to the inner surface of the frame by brazing.

20. The assembly method for an image pick-up device according to claim 16, wherein wiring is hermetically joined to the engaging portions and the cable signal lines are hermetically joined to the other engaging portions by brazing.